

a4
amend'd.

having a first diameter, a second diameter, and a first thickness, said first diameter less than said second diameter.

a5

14. (once amended) An electric motor in accordance with Claim 11 wherein a portion of said annular flange is removable for facilitating rotor balance.

Remarks

The Office Action mailed February 21, 2002 has been carefully reviewed and the foregoing amendment has been made in consequence thereof. Submitted herewith is a Submission of Marked Up Paragraphs and Claims, a Request for Approval of Drawing Change, and a Request for Approval of Formal Drawings. Also submitted herewith for approval are formal drawings.

Claims 1-16 are pending in this application. Claims 1-4 have been withdrawn from consideration. Claims 5-16 stand rejected.

Applicants note the objections to the drawings. Submitted herewith is a request for approval of drawing changes along with formal drawings. Specifically, in Figure 2, Applicants have relabeled height 34 as height h_1 , and have relabeled height 42 as height h_2 . Applicants have also amended the specification to reflect these drawing changes. In Figures 2 and 5, Applicants have also replaced angle reference θ with angle reference Φ to correspond with the application. In Figure 3, Applicants have corrected the absence of reference numeral 26 from the drawing. Accordingly, Applicants respectfully request approval of the indicated drawing changes and approval of the formal drawings submitted herewith.

For at least the reasons set forth above, Applicants respectfully submit that the objections to the drawings be withdrawn and the submission of the formal drawings be approved.

The objection to the specification is respectfully traversed. Specifically, although Applicants respectfully submit that the originally submitted title of the invention clearly

describes the claimed invention, in an effort to expedite the prosecution of this application, Applicants have amended the title of the invention to more clearly describe the claimed invention. Accordingly, Applicants respectfully submit that the objections to the title of the invention be withdrawn.

Applicants also note the objection relating to a typographical error in the specification wherein an incorrect reference number was used to identify the inside diameter of annular flange 24. Applicants have amended the specification to correct the typographical error. Accordingly, Applicants respectfully submit that the objection to the specification of the application be withdrawn.

For at least the reasons set forth above, Applicants respectfully submit that the objection to the specification and the title be withdrawn.

The objection to the claims is respectfully traversed. Specifically, Applicants have amended Claim 6 such that the reference character (Φ) is enclosed within parentheses. Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the objection to the claims be withdrawn.

The rejection of Claims 5-10 under 35 U.S.C. § 102(b) as being anticipated by Hollenbeck et al. (U.S. Patent No. 5,986,379) is respectfully traversed.

Hollenbeck et al. ("Hollenbeck") describe a motor having an external rotor (30) with a split C arrangement of ferromagnetic members (44, 46) which function as the poles of the electromagnet in the motor. Ferromagnetic members (44, 46) are generally C-shaped and mounted on opposite end caps (40, 42) of the motor. Ferromagnetic members (44, 46) on opposing end caps (40, 42) are angularly offset from each other. Ferromagnetic members (44, 46) on each end cap (40, 42) are also spaced apart from each other, and receive a portion of motor windings (50) within them. The motor is constructed for assembly using few or no separate fastening devices to secure the components together. Notably, Hollenbeck does not

describe nor suggest an annular flange extending circumferentially from a sidewall for strengthening the sidewall.

Claim 5 recites a rotor cup assembly for an electric motor that includes a housing that has a top, a bottom, a sidewall extending circumferentially from the top, and “an annular flange extending circumferentially from said sidewall for strengthening said sidewall....”

Hollenbeck does not describe nor suggest a rotor cup assembly for an electric motor having an annular flange extending circumferentially from a sidewall for strengthening the sidewall. Specifically, Hollenbeck does not describe nor suggest an annular flange that extends circumferentially from a rotor cup sidewall for strengthening the sidewall. Rather, in contrast to the present invention, Hollenbeck appears to show in Figure 25 a first lip extending from a rotor bell (232) for mating with a second lip extending from a stator assembly for positioning the stator assembly within rotor bell (232). Accordingly, Applicants respectfully submit that Claim 5 is patentable over Hollenbeck.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of Claim 5 be withdrawn.

Claims 6-10 depend, directly or indirectly, from independent Claim 5. When the recitations of Claims 6-10 are considered in combination with the recitations of Claim 5, Applicants submit that dependent Claims 6-10 likewise are patentable over Hollenbeck.

Additionally, with respect to Claim 8, the Office Action asserts that “no patentable weight has been given to the method of manufacturing limitations (i.e. machined), since ‘even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.’” Applicants respectfully submit that originally submitted Claim 8 does not recite, as suggested by the Office Action, a method of manufacturing a rotor cup assembly. Rather, originally submitted Claim 8 recites a rotor cup assembly, and not a method of manufacturing a rotor cup assembly. While Applicants maintain that originally

submitted Claim 8 is specifically directed to a rotor cup assembly and not a method of manufacturing, in an effort to expedite the prosecution of this application, Applicants have amended Claim 8. Claim 8 now recites a rotor cup assembly that includes an annular flange wherein a portion of the annular flange “is removable for facilitating rotor balance.” Accordingly, Applicants respectfully submit that Claim 8 clearly teaches a rotor cup assembly, and not a method of manufacturing a rotor cup assembly.

For the additional reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of Claim 8 be withdrawn.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of Claims 5-10 be withdrawn.

The rejection of Claims 11-16 under 35 U.S.C. § 103(a) as being unpatentable over Hollenbeck in view of Yamaguchi (U.S. Patent No. 6, 051,900) is respectfully traversed.

Hollenbeck is described above. Yamaguchi describes a flat vibrator motor having no output shaft wherein the motor includes a housing (H), an eccentric rotor (3), a commutator (5), a magnet (6), and a shaft (2). Housing (H) includes a casing (8) and a bracket (1). Eccentric rotor (3) has a plurality of armature coils (3a, 3b, 3c) and is disposed in housing (H). Commutator (5) is attached to rotor (3), and a pair of brushes (7) are in sliding contact with commutator (5). Magnet (6) confronts and is spaced from rotor (3). Shaft (2) has a first end fixed to a portion of housing (H) that supports rotor (3), and a second end not projecting outside of housing (H) and fitted in a concave portion of bracket (1) for preventing radial movement of shaft (2). Eccentric rotor (3) is rotatably mounted on shaft (2), and is brought into sliding contact with housing (H) when shaft (2) moves axially. Notably, Yamaguchi does not describe nor suggest a rotor cup assembly for an electric motor that has an annular flange extending circumferentially from a sidewall for strengthening the sidewall.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify Hollenbeck using the teachings of Yamaguchi. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Hollenbeck nor Yamaguchi describe or suggest the claimed combination. Rather, the present Section 103 rejection is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Hollenbeck is cited for teaching an electric motor that includes a rotor cup wherein the rotor cup has a housing that includes a sidewall and an annular flange that extends circumferentially from the sidewall, but Hollenbeck does not describe or suggest a rotor cup assembly for an electric motor that has an annular flange that extends circumferentially from a sidewall for strengthening the sidewall. Yamaguchi is cited for teaching the construction of a flat coreless vibration motor having a rotor shaft that extends through a bracket for the purpose of supporting and physically connecting an eccentric rotor to the bracket, but Yamaguchi does not describe or suggest a rotor cup assembly for an electric motor that has an annular flange that extends circumferentially from a sidewall for strengthening the sidewall. Since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejection of Claims 11-16 be withdrawn.

Also, the teachings or suggestions, as well as the expectation of success, must come from the prior art, not the applicant's disclosure. See In re Vaeck, 947 F.2d 488, 493, 20 U.S.P.Q.2nd 1438, 1442 (Fed. Cir. 1991). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose

among isolated disclosures in the prior art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

Notwithstanding the above, the rejection of Claims 11-16 under 35 U.S.C. § 103(a) as being unpatentable over Hollenbeck in view of Yamaguchi is further traversed on the grounds that Hollenbeck and Yamaguchi, alone or in combination, do not describe or suggest the claimed invention.

Claim 11 recites an electric motor that has a stator that includes a stator core having a winding thereon, a rotor positioned at least partially around the stator, a rotor cup, and a rotor shaft positioned at least partially within the rotor that extends through the rotor cup wherein the rotor cup includes a housing that has “a top, a bottom, a sidewall, and an annular flange, said sidewall extending circumferentially from said top and having a first diameter, said annular flange extending circumferentially from said sidewall for strengthening said sidewall....”

Neither Hollenbeck nor Yamaguchi, alone or in combination, describe or suggest a rotor cup assembly for an electric motor that has an annular flange extending circumferentially from a sidewall for strengthening the sidewall. More specifically, neither Hollenbeck nor Yamaguchi, alone or in combination, describe or suggest an annular flange that extends circumferentially from a rotor cup sidewall for strengthening the sidewall. Rather, in contrast to the present invention, Hollenbeck appears to show in Figure 25 a first lip extending from a rotor bell (232) for mating with a second lip extending from a stator assembly for positioning the stator assembly within rotor bell (232). Yamaguchi describes a flat vibrator motor that has no output shaft wherein the motor includes a housing, an eccentric rotor, a commutator, a magnet, and a shaft. However, Yamaguchi does not describe nor suggest a rotor cup assembly for an electric motor that has an annular flange that extends circumferentially from a sidewall for strengthening the

sidewall. Accordingly, Applicants respectfully submit that Claim 11 is patentable over Hollenbeck in view of Yamaguchi.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claim 11 be withdrawn.

Claims 12-16 depend, directly or indirectly, from independent Claim 11. When the recitations of Claims 12-16 are considered in combination with the recitations of Claim 11, Applicants submit that dependent Claims 12-16 likewise are patentable over Hollenbeck in view of Yamaguchi.

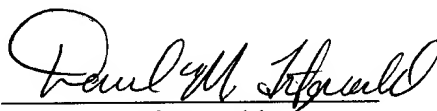
Additionally, with respect to Claim 14, the Office Action asserts that “no patentable weight has been given to the method of manufacturing limitations (i.e. machined), since ‘even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.’” Applicants respectfully submit that originally submitted Claim 14 does not recite, as suggested by the Office Action, a method of manufacturing an electric motor that has a rotor cup. Rather, originally submitted Claim 14 recites an electric motor having a rotor cup, and not a method of manufacturing an electric motor having a rotor cup. While Applicants maintain that originally submitted Claim 14 is specifically directed to an electric motor having a rotor cup and not a method of manufacturing, in an effort to expedite the prosecution of this application, Applicants have amended Claim 14. Claim 14 now recites an electric motor having a rotor cup that includes an annular flange wherein a portion of the annular flange “is removable for facilitating rotor balance.” Accordingly, Applicants respectfully submit that Claim 14 clearly teaches an electric motor having a rotor cup, and not a method of manufacturing an electric motor having a rotor cup.

For the additional reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claim 14 be withdrawn.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claims 11-16 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Daniel M. Fitzgerald
Registration No. 38,880
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070



03DV-7090
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bobay, et al. :
Serial No.: 09/681,545 : Art Unit: 2834
Filed: April 26, 2001 : Examiner: Cuevas, Pedro J.
For: ANNULAR FLANGE ON :
EXTERNAL ROTOR CUP :

SUBMISSION OF MARKED UP PARAGRAPHS AND CLAIMS

Hon. Commissioner for Patents
Washington, D.C. 20231

Submitted herewith are marked up Paragraphs and Claims in accordance with 37 C.F.R. 1.121(b)(1)(ii) and 1.121(c)(1)(ii).

IN THE SPECIFICATION

Please replace paragraph [0015] with the following replacement paragraph.

Figure 2 is a perspective view of a rotor cup 22 including an annular flange 24. In one embodiment, flange 24 is unitary with rotor cup 22. Rotor cup 22 further includes a circumferential sidewall 26 having a first diameter 28, a top surface 30, and an open bottom 32. Sidewall 26 has a height [34] h_1 measured between top surface 30 and a top edge 36 of annular flange 24. Annular flange 24 is fabricated from the same material as rotor cup 22. In one embodiment, annular flange 24 is fabricated from stamped steel. Annular flange 24 is substantially circular in shape and has an inside diameter [28] 38 and an outside diameter 40. Inside diameter 38 is smaller than outside diameter 40. Annular flange 24 has a height [42] h_2 measured between a bottom edge 44 and top edge 36. In addition, annular flange 24 is outwardly flared from sidewall 26 by an angle Φ measured between sidewall 26 and bottom

edge 44. Angle Φ permits annular flange 24 to have an outwardly flared curved edge 46 which allows rotor cup 22 to lay flat on a surface (not shown in Figure 2).

Please delete the title and replace with the following title:

EXTERNAL ROTOR CUP WITH ANNULAR FLANGE EXTENDING THEREFROM
IN THE CLAIMS

5. (once amended) A rotor cup assembly for an electric motor, said rotor cup assembly comprising a housing comprising a top, a bottom, a sidewall extending circumferentially from said top and having a first diameter, said sidewall and said top defining a cavity, and an annular flange extending circumferentially from said sidewall for strengthening said sidewall, said sidewall [and]having a first diameter, a second diameter, and a first thickness, said first diameter less than said second diameter.

6. (once amended) A rotor cup assembly in accordance with Claim 5 wherein said annular flange configured to have an edge, said edge outwardly flared from said sidewall by an angle (Φ).

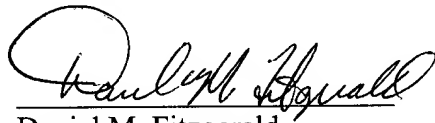
8. (once amended) A rotor cup assembly in accordance with Claim 5 wherein a portion of said annular flange is removable for facilitating [machined to remove material from said annular flange such that said annular flange configured to achieve a desired level of]rotor balance.

11. (once amended) An electric motor comprising a stator including a stator core having a winding thereon, a rotor positioned at least partially around said stator, a rotor shaft positioned at least partially within said rotor, and a rotor cup, said rotor shaft extending through said rotor cup, said rotor cup comprising:

a housing comprising a top, a bottom, a sidewall, and an annular flange, said sidewall extending circumferentially from said top and having a first diameter, said annular flange extending circumferentially from said sidewall for strengthening said sidewall, said sidewall [and] having a first diameter, a second diameter, and a first thickness, said first diameter less than said second diameter.

14. (once amended) An electric motor in accordance with Claim 11 wherein a portion of said annular flange is removable for facilitating [configured to be machined to remove material from said annular flange such that said annular flange achieves a desired level of]rotor balance.

Respectfully Submitted,



Daniel M. Fitzgerald
Registration No. 38,880
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070